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Expanding English vocabulary using Google Lens: Insights from a real-time translation

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Abstract

This study explores the effectiveness of Google Lens in enhancing English vocabulary acquisition through its real-time translation capabilities. As technology increasingly integrates into educational practices, innovative tools like Google Lens offer potential benefits for language learners. This research assesses how real-time translation impacts vocabulary acquisition among English as a Second Language (ESL) learners. A mixed-methods approach was employed, involving quantitative analysis of vocabulary test scores before and after the intervention and qualitative analysis of learner experiences gathered through surveys and interviews. Participants included a diverse group of ESL students who used Google Lens to translate and learn new English words in various contexts over a specified period. The findings indicate that Google Lens significantly improves vocabulary retention and comprehension compared to traditional learning methods. Learners reported increased engagement and confidence in their language skills, attributing this to the immediate and contextual feedback provided by the tool. The study concludes that integrating Google Lens into language learning can be a powerful strategy to enhance vocabulary acquisition. This conclusion has practical implications for educators and learners, equipping them with the knowledge to effectively leverage technology in language education and improve their teaching and learning practices.

Keywords: *ESL Learners, Google Lens, Language Learning, Real-Time Translation, Vocabulary Acquisition.*

1. Introduction

Mastering vocabulary is essential in learning English, as it supports all other language skills, including listening, speaking, reading, and writing (Juliana, 2021). Robust vocabulary enables learners to communicate clearly and effectively, comprehend spoken and written language more efficiently, and participate in meaningful conversations (Alifia, 2022). Panjaitan, in Nurhayati (2024), explained that vocabulary acquisition strategies are vital for enhancing vocabulary knowledge, particularly while learning English.

Extensive terminology allows learners to express their views and ideas accurately and confidently, facilitating effective interactions. Furthermore, vocabulary familiarity is crucial for reading comprehension, allowing learners to understand and interpret the meaning of texts. This understanding leads to upgraded reading skills and overall academic accomplishment, as students with a more extensive vocabulary can be involved with the curriculum more effectively. Moreover, learning new words and their meanings aids cognitive development by

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enhancing memory, improving problem-solving skills, and encouraging critical thinking. Kohnke's in Sinnott and Xia's (2020) project to build a vocabulary app discovered that gamified aspects were more motivating and stimulating to most trial users than traditional learning approaches.

Technology has revolutionized language learning by offering innovative tools and resources that make the process more interactive, engaging, and effective. It provides learners access to many authentic materials, such as videos, podcasts, articles, and books, enhancing their understanding of the language in real-world contexts. Interactive tools, such as language learning apps, online games, and virtual classrooms, offer attractive activities and immediate feedback, helping learners improve their ability to translate quickly (Suwastini et al., 2023; Essafi et al., 2024). Technology also enables personalized learning experiences through adaptive platforms that tailor lessons to individual needs, allowing learners to progress at their own pace. The convenience and flexibility of online resources and mobile apps make it easier for learners to integrate language studies into their daily routines (Dlamini, 2024). Additionally, technology facilitates communication and collaboration with native speakers and other learners worldwide through social media, forums, and language exchange platforms, thus enriching the learning experience (Wei-Xun & Jia-Ying, 2024).

Google Lens is an advanced image recognition technology established by Google, leveraging artificial intelligence (AI) to provide a range of functionalities, including real-time translation. Google Lens is an image identification system developed by Google in 2017 and is now available on most devices (Taffel, 2020). Using a smartphone camera, Google Lens can identify and analyze visual information to deliver instant text translations in images. One of its most powerful features is the ability to translate text in real-time, where users can point their camera at foreign text. Google Lens overlays the translated text onto the original image. This seamless translation is invaluable in understanding signs, menus, documents, and more. Khan et al. (2019) claimed Google Lens is a strong STEM instrument that may boost the quantity and quality of knowledge and increase motivation for students to learn. Google Lens supports many languages, making it a versatile tool for learners worldwide. Its interactive features go beyond translation, allowing users to tap on words to hear pronunciation, get definitions, and see usage examples, providing a multifaceted learning experience. Combination through supplementary Google amenities like Google Translate and Google Search enhances its utility by providing additional information and resources. Google Lens is beneficial in real-life situations, such as traveling or studying abroad, offering immediate assistance and boosting learners' confidence in navigating foreign environments. Through Google Lens, language learners can enhance their vocabulary acquisition in an immersive and interactive manner, making the learning procedure more effective and enjoyable. As Arias et al. (2010) stated, technology makes the learning process independent and individualized, increasing interest and motivation toward vocabulary learning. This study aims to determine how much Google Lens can develop students' vocabulary.

2. Theoretical Framework

Mastering vocabulary is vital in learning English as it underpins all language skills, including listening, speaking, reading, and writing. Krashen's Input Hypothesis (1982) highlights the importance of comprehensible input, proposing that learners acquire language most efficiently when exposed to language input just beyond their current proficiency level. Google Lens can deliver such input by translating real-world texts encountered by students. Likewise, Mayer's Multimedia Learning Theory (2001) suggests that individuals learn more effectively from a combination of words and images than from words alone. Google Lens

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leverages this principle by joining manuscripts and pictures in real-time translations, enhancing vocabulary acquisition through multimodal learning.

Technology's role in modern language learning is significant, offering innovative tools that make learning interactive and engaging. Sweller's Cognitive Load Theory (1988) posits that learning is most effective when appropriately managing cognitive load. Google Lens helps reduce extraneous cognitive load by providing instant translations, allowing students to focus on understanding and memorizing new vocabulary. Mayer's Cognitive Theory of Multimedia Learning (2005) also emphasizes the integration of visual and verbal information to enhance learning. With simultaneous visual and textual translations, Google Lens supports effective vocabulary acquisition through reduced cognitive load and enriched multimedia input.

Situated Learning Theory (Lave & Wenger, 1991) and Vygotsky's Sociocultural Theory (1978) highlight the importance of context and social interaction in learning. Google Lens allows learners to acquire vocabulary in authentic contexts by translating texts they encounter daily, supporting situated learning. It also facilitates social learning by enabling interactions with peers and the environment using translated vocabulary, enhancing language acquisition through contextual and social engagement.

Motivational theories, such as Gardner's Socio-Educational Model (1985) and Deci and Ryan's Self-Determination Theory (2000), emphasize the crucial role of motivation in language learning. Google Lens's interactive and immediate feedback can increase students' enthusiasm and engagement with vocabulary learning. Google Lens promotes self-directed learning, enhancing vocabulary acquisition by fostering a sense of autonomy and intrinsic motivation.

Kolb's Experiential Learning Theory (1984) and Bruner's Constructivist Learning Theory (1966) suggest that learning is most effective through direct experience and knowledge construction. Google Lens facilitates experiential and constructivist learning by permitting students to interact with and translate real-world texts, helping them build new vocabulary knowledge through direct, hands-on experience. This direct interaction with the environment supports more profound learning and retention of new terminology.

Paivio's Dual Coding Theory (1971) and Anderson's Schema Theory (1984) emphasize the importance of visual and verbal information in learning and organizing knowledge into schemas. Google Lens supports double encrypting by providing visual text translations, assisting in retaining and recalling new terminology. It also helps learners build and expand their vocabulary schemas by offering immediate translations and contextual examples, facilitating the incorporation of new vocabulary into existing knowledge structures.

Ellis's Task-Based Language Teaching (2003) and Long's Interactive Hypothesis (1996) focus on the importance of interaction and meaningful tasks in language learning. Google Lens can be combined into task-based activities, where learners use the device to translate and understand vocabulary within meaningful tasks, enhancing learning outcomes. This interactive approach supports vocabulary acquisition by providing immediate, contextual feedback during language exercises.

Bandura's Social Learning Theory (1977) and Bronfenbrenner's Ecological Systems Theory (1979) emphasize the role of observation, imitation, and environmental influences in learning. Google Lens enhances social learning by allowing learners to observe and understand vocabulary in real-time, promoting imitation and practice of new words. It integrates with various ecological systems by providing real-time translations in diverse settings, supporting vocabulary acquisition in multiple contexts.

Siemens's Connectivism (2005) and Ajzen's Theory of Planned Behavior (1991) highlight the importance of connecting to information sources and the influence of attitudes on behavior. Google Lens serves as a device that connects students to a massive display of language

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resources in real time, supporting connective ethics. Positive attitudes towards utilizing Google Lens, influenced by its usefulness and comfort of usage, can enhance vocabulary acquisition and language learning behaviors.

Finally, the Technology Acceptance Model (Davis, 1989) explains how users accept and use technology based on perceived effortlessness of use and usefulness. With its user-friendly interface and practical applications, Google Lens will likely be well-accepted by language learners, facilitating vocabulary acquisition. Teachers can influence these theories to enhance terminology achievement by integrating Google Lens into language learning, making learning more effective and attractive.

2.1 Review of Studies on Technology in Language Learning

Technology integration in language learning has been widely researched, showcasing its potential to enhance language acquisition through various innovative tools and platforms. A notable study by Blake (2013) examined the effectiveness of computer-assisted language learning (CALL) and found that technology can offer individualized instruction and immediate feedback, which are vital for language development. This study highlighted that CALL tools, such as language learning software and apps, can alter the student's pace and provide engaging multimedia resources that improve retention and comprehension of the target language.

Similarly, a study by Stockwell (2010) focused on mobile-assisted language learning (MALL). This study verified that mobile devices like smartphones and tablets offer flexible and accessible language learning chances. Students can exercise language skills anytime and anywhere, integrating language study into their everyday routines more efficiently. The study concluded that MALL is particularly effective for vocabulary acquisition and pronunciation practice due to its portability and the variety of accessible apps. Chapelle (2001) explored the potential of online learning environments and virtual classrooms for language education. Her research found that online platforms can provide rich, interactive experiences that simulate real-life communication scenarios. These environments support collaborative learning and allow learners to interact with native speakers and peers globally, significantly enhancing their language skills.

Another significant study by Lai and Zheng (2018) investigated the impact of social media on language learning. They discovered that social media platforms, such as Facebook, Twitter, and language exchange forums, offer valuable opportunities for authentic language practice and cultural exchange. The study emphasized that social media can motivate learners to engage more actively with the language and provide a supportive community for language practice. Reinders and Hubbard (2013) examined the role of game-based learning in language education. Their research showed that educational games can make language learning more enjoyable and interactive. Games provide a risk-free environment for learners to practice language skills and receive instant feedback, helping build confidence and reinforce learning.

A study by Dudeney and Hockly (2012) explored using digital storytelling in language learning. They found that creating and sharing digital stories can enhance language learners' creativity and communication skills. This method allows learners to practice the language in a meaningful context, improving their ability to express ideas and narratives in the target language.

2.2 Review of Studies on Translation Tools and Language Learning

Various studies have highlighted translation tools' potential benefits and limitations in language learning. Garcia and Pena (2011) investigated using machine translation (MT) tools, such as Google Translate, in the language classroom. They found that MT tools can help learners understand foreign texts quickly and provide a valuable resource for checking

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translations. However, the study also noted that over-reliance on MT tools might hinder the development of independent language skills and critical thinking.

Another study by Clifford, Merschel, and Munné (2013) explored the educational use of translation apps. Their research indicated that these apps can aid vocabulary acquisition and comprehension. The study suggested that translation tools can enhance learners' understanding of word meanings and contexts when used appropriately. However, it also emphasized the importance of guiding learners on using these tools effectively to avoid over-dependence. Pym, Malmkjær, and Gutiérrez-Colón Plana (2013) reviewed the pedagogical implications of translation in language teaching. They found that translation activities can develop critical language awareness and improve understanding of linguistic nuances. The study highlighted that translation tasks encourage learners to compare and contrast languages, deepening their comprehension and enhancing their linguistic skills.

In their study, Lee and Briggs (2021) analyzed the impact of real-time translation tools on language learners' confidence and engagement. They found that tools like Google Lens can significantly boost learners' confidence by providing immediate support in understanding and using new vocabulary. The study concluded that real-time translation tools can effectively promote active learning and reduce language anxiety. Kirkwood and Price (2013) investigated the role of translation tools in facilitating language learning for students with diverse linguistic backgrounds. Their research indicated that these tools can help bridge language gaps and provide equitable access to learning materials. The study emphasized that translation tools can support inclusivity and diversity in language education by making content accessible to learners from various linguistic backgrounds.

O'Neill (2019) examined the potential drawbacks of using translation tools. The research suggested that while these tools offer immediate benefits, they may lead to surface-level learning if not integrated thoughtfully into the curriculum. The study recommended using translation tools as supplementary aids rather than primary learning resources to ensure deeper language learning and comprehension.

Another critical study by Bowker and Buitrago Ciro (2019) explored using translation tools in academic writing. They found that these tools can assist non-native speakers in producing more accurate and coherent texts. The study highlighted that translation tools can be handy for advanced language learners who need to meet high standards of academic writing. Munday (2016) examined the pedagogical approaches to translation in language classrooms. The study argued that when designed carefully, translation tasks can enhance learners' linguistic and cultural competence. It suggested incorporating translation activities that encourage critical thinking and problem-solving to maximize their educational value. Chen and Zhang (2019) focused on integrating translation tools in blended learning environments. Their research showed that combining traditional language teaching methods with translation tools can create a more dynamic and practical learning experience. The study emphasized that translation tools can complement classroom instruction by providing additional support and resources for language learners.

In summary, the reviewed studies suggest that while translation tools can offer significant benefits for language learners, including enhanced vocabulary acquisition and increased confidence, their effectiveness largely depends on how they are integrated into the learning process. Proper guidance and balanced use are essential to ensure that learners develop independent language skills and critical thinking abilities alongside their use of translation tools.

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2.3 Gaps in the Literature

Despite the growing body of research on integrating technology in language learning, specific studies focusing on using Google Lens for vocabulary achievement still need to be made available. While numerous studies have explored the profits of computer-assisted language learning (CALL), mobile-assisted language learning (MALL), and various translation tools, there needs to be more literature regarding applying Google Lens as a real-time translation tool for enhancing vocabulary learning.

Most existing research on technology in language learning has focused on tools like language learning apps, online platforms, and general translation applications like Google Translate. These studies have emphasized the benefits of interactive and adaptive learning environments, the flexibility of mobile devices for language practice, and the immediate support provided by translation tools. However, they often need to address Google Lens' unique capabilities, particularly its capability to offer real-time visual translations in a seamless, contextually relevant manner.

For example, while Blake (2013) and Stockwell (2010) have provided valuable insights into CALL and MALL, respectively, their studies need to encompass the specific use of augmented reality (AR) tools like Google Lens in vocabulary achievement. Similarly, research by Garcia and Pena (2011) and Clifford et al. (2013) on machine translation tools highlights their educational value. However, it does not delve into the unique interactive features of Google Lens that can enhance contextual learning.

Moreover, while some studies have explored the usage of real-time translation tools and their impact on language learners' confidence and engagement (Lee & Briggs, 2021), they often need to focus on the practical applications of Google Lens in everyday learning scenarios. It represents a significant gap, as Google Lens offers distinct advantages, such as the capability to overlay translations onto real-world objects and texts, providing learners with immediate and contextually relevant vocabulary support.

Additionally, research into the academic implications of translation activities (Pym et al., 2013) and the role of translation tools in blended learning environments (Chen & Zhang, 2019) has not explicitly examined the incorporation of Google Lens into classroom settings or its effectiveness compared to other translation tools.

The new thing from this research is the development of the students' vocabulary using technology. It included an advanced way of learning English. At the university students' level, having robust discussions in the classroom between the students and the lecturer is very needed for advanced technology to achieve this. This research works with an artificial intelligence tool called Google Lens. Google Lens is a new technology that is usually used to take a picture and then help people with their own needs, such as trying to understand the name of a specific thing from the internet (Google) by clicking the Google Lens in the choice of naming the picture.

This Google Lens can also translate many sentences only using one click in the Google Lens choice of translating words when pressing the button. The reason why the students use Google Lens is, of course, to give a fast response to the lecturer when the lecturer discusses a particular topic. It no longer takes some minutes to open a dictionary in the traditional way, where the students must open one by one to find a specific meaning. This research is urgent to conduct: it is a new and interesting way to support a powerful discussion in English class. While the benefits of various technological tools for language learning have been well-documented, there is a clear need for specific studies investigating the usage of Google Lens for vocabulary acquisition. Future studies should emphasize Google Lens' unique capabilities, impact on learner engagement and retention, and effectiveness in different learning contexts. Addressing this gap will provide valuable insights into how augmented reality tools can be leveraged to improve language learning and offer practical recommendations for educators and learners.

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3. Research Method

This study adopted a qualitative method to assess the usefulness of Google Lens in increasing English vocabulary acquisition. Qualitative research considers that viewpoints and practices in the field are different because of the various subjective perspectives and social backgrounds related to them (Flick, 2018; Flemming et al., 2021; Liamputtong, 2021). The qualitative method was chosen to thoroughly understand students' experiences and perspectives on utilizing Google Lens as a learning aid in English sessions. This approach allows for the capture of rich descriptive data, capturing how students interact with the application in a real-world classroom situation. The research strategy included two primary data-collection methods: interviews and questionnaires (Tusting, 2022; Redding & Araújo, 2023). These strategies are used to gain a thorough knowledge of the student's experiences and the perceived usefulness of Google Lens in helping them improve their language abilities.

Interviews: Semi-structured interviews were conducted with students who used Google Lens in their English classes. The interviews will examine their experiences, perceptions, and occasions where Google Lens helped them learn new words. This flexible approach allows the researcher to investigate emergent themes more deeply during the talk. Questionnaires: A questionnaire was administered to the same group of students to augment interview data. The questionnaire comprised open-ended and Likert-scale questions to gather detailed information about students' experiences and satisfaction with Google Lens (French, 2021). This technique allows for a more significant data collection, highlighting common trends and shared opinions among participants.

4. Findings and Discussion

The study intended to explore the effectiveness of Google Lens in enhancing English vocabulary achievement among cadets at Politeknik Bumi Akpelni. In implementing this study, researchers involved 84 respondents to give their opinions regarding using Google Lens in learning activities in and outside the classroom. The following is the questionnaire result from 23 statements given:

1) Google Lens is easy to use to translate text: The results indicate that most respondents strongly agree that Google Lens is easy to use for translating text, with over half of the participants choosing Strongly Agree. This high level of agreement suggests that the tool's user interface and operational simplicity are widely appreciated. Only a negligible number of participants disagreed, underscoring that technical difficulties in using Google Lens for translation are minimal.
2) I have no technical difficulties when using Google Lens: Most respondents reported that they do not experience technical issues when using Google Lens, as evidenced by a significant portion selecting either "Strongly Agree" or "Agree." It demonstrates the tool's reliability and stability. However, a small percentage of Strongly Disagree responses indicates that a few users might face occasional technical challenges, which could be related to device compatibility or connectivity issues.
3) I can quickly understand how to use Google Lens: A substantial number of respondents "Strongly Agree" that they can soon learn how to use Google Lens. It reflects well on the tool's intuitive design, enabling new users to become familiar with its functionality without requiring extensive training. The lack of negative responses highlights a minimal learning curve for using Google Lens.
4) Google Lens is accessible whenever I need it: While most users agreed that they could access Google Lens whenever required, there were a few who marked "Disagree," indicating limited accessibility for some. It could be due to internet connectivity, regional

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restrictions, or device limitations. However, the overall high agreement emphasizes the general availability of the tool.

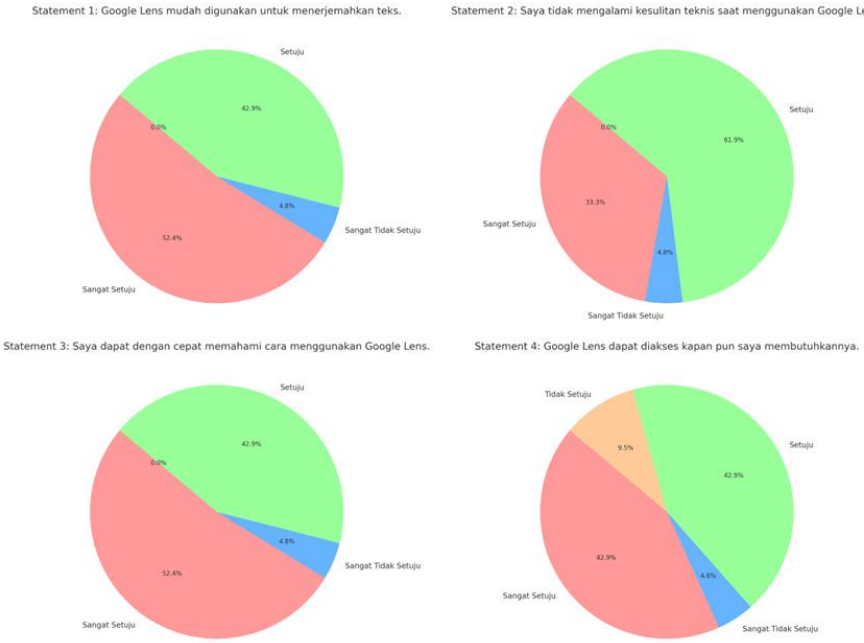

Figure 1. Response distribution for statements 1 to 4 from the questionnaire

5) Using Google Lens helps me learn new English vocabulary: This statement garnered many "Strongly Agree" responses, showing that Google Lens is considered highly effective in aiding users with learning new English vocabulary. This positive feedback highlights the tool's educational value, particularly for language learners who benefit from visual and contextual translations.
6) I can remember new words better after using Google Lens: Many participants selected "Strongly Agree," indicating that Google Lens helps reinforce memory retention of new vocabulary. The interactive and visual nature of the app likely supports deeper cognitive processing, aiding in the retention of words learned through it. The presence of "Agree" responses still shows support, while the minimal "Disagree" answers point to minor individual differences in learning preferences.
7) Google Lens provides a clear and accurate translation: While most respondents found the translations provided by Google Lens to be clear and precise, a small fraction marked "Disagree." It could be attributed to nuanced language issues or specialized terminology where automated translation might falter. Overall, the positive feedback suggests that Google Lens performs well in providing understandable translations.
8) I understand the context of new vocabulary better with Google Lens: Respondents predominantly agreed that Google Lens enhances their understanding of the context of new vocabulary. It indicates that the tool's features, such as real-time visual translation, provide users with situational and contextual cues that make new words more understandable and relatable.

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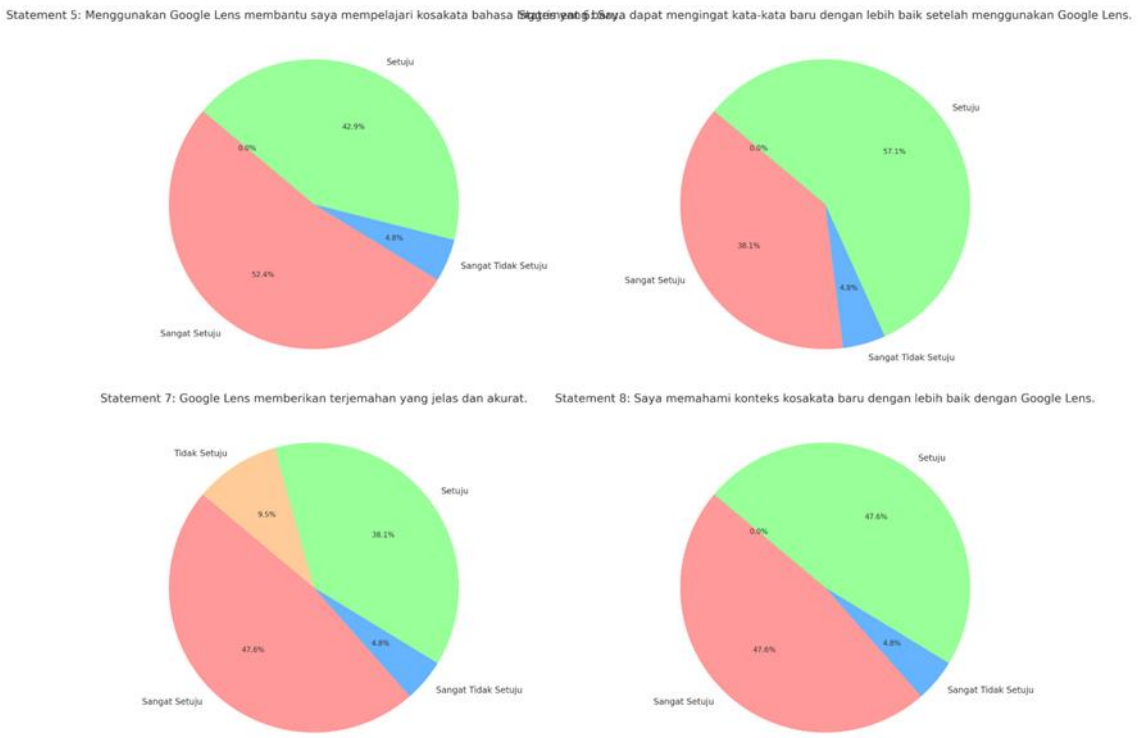

Figure 2. Response distribution for statements 5 to 8 from the questionnaire

9) Google Lens helped me learn vocabulary specific to Port Management and Maritime Logistics. This question specifically targeted those learning technical jargon related to maritime management and logistics. The responses show strong agreement, suggesting that Google Lens is an effective tool for acquiring industry-specific vocabulary. The few adverse reactions may point to the challenge of translating niche technical terms accurately.
10) Using Google Lens makes vocabulary learning more interesting: A significant number of respondents found using Google Lens to make vocabulary learning more engaging, as shown by the high count of "Strongly Agree" and "Agree" responses. It indicates that integrating technology in language learning enhances user interest and motivation compared to traditional methods.
11) I am more motivated to learn vocabulary using Google Lens than traditional methods: The responses indicate that Google Lens significantly boosts motivation compared to conventional learning methods. It implies that the interactive and modern approach offered by Google Lens appeals more to users, possibly due to its visual and instantaneous feedback features.
12) Google Lens keeps me interested in learning new words: High agreement levels with this statement highlight that the tool is helpful for initial learning and sustaining long-term interest in vocabulary acquisition. This continuous engagement can be attributed to the tool's dynamic interface and ease of use.

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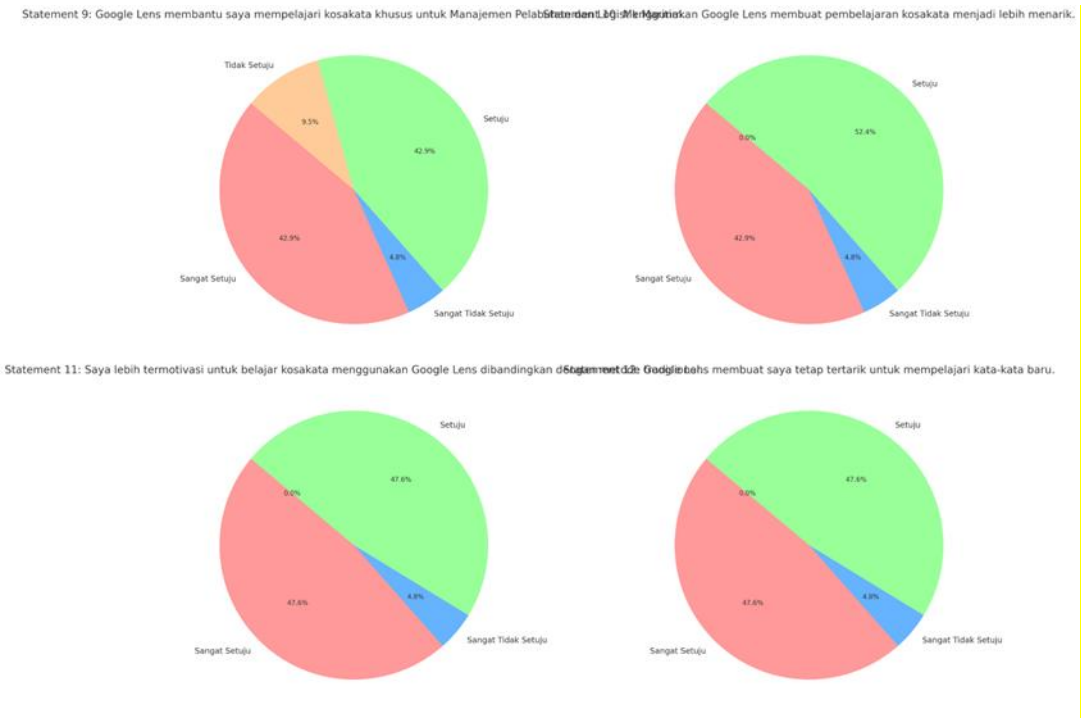

Figure 3. Response distribution for statements 9 to 12 from the questionnaire

13) I enjoy using Google Lens to learn vocabulary: The consensus among respondents is that they enjoy using Google Lens for vocabulary learning. The tool's user-friendly nature and practical functionality likely contribute to this positive experience, as reflected by a significant portion of "Strongly Agree" responses.
14) I would recommend Google Lens to others for vocabulary learning: The high agreement rates indicate intense user satisfaction, as most respondents would recommend Google Lens to others. This endorsement suggests that users value the tool's contribution to language learning and vocabulary development.
15) I feel confident using the vocabulary I learned through Google Lens: Many respondents noted an increase in confidence when using vocabulary learned through Google Lens. It reflects positively on the tool's ability to facilitate practical learning, enabling users to apply newly acquired words in real-life situations.
16) I can recall the words learned through Google Lens during conversations: Respondents agreed that Google Lens supports recall during conversations, suggesting that the tool's learning process integrates well with active language use. It demonstrates its effectiveness in transitioning vocabulary from passive knowledge to active usage.

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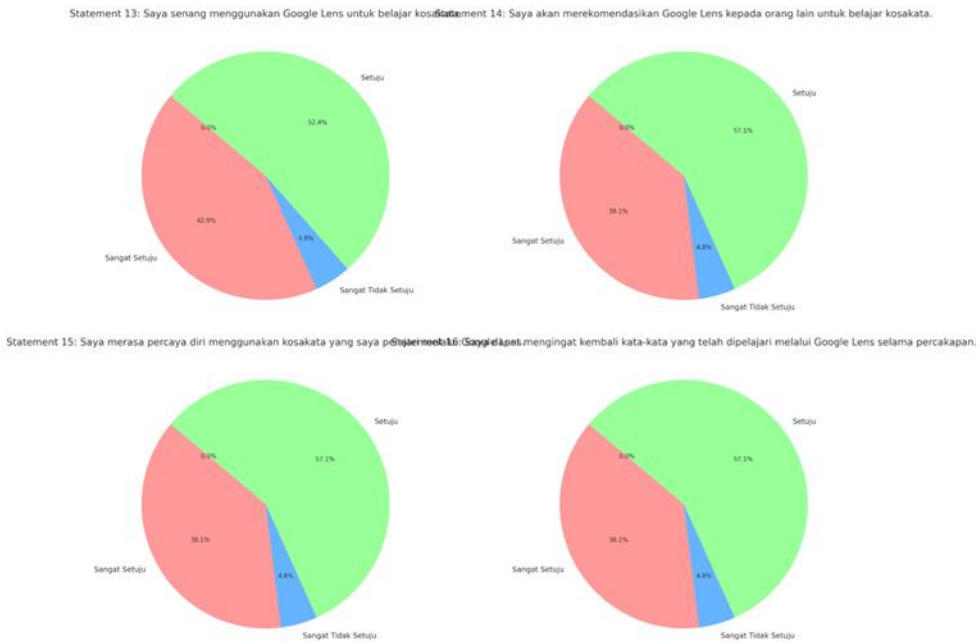

Figure 4. Response distribution for statements 13 to 16 from the questionnaire

17) The vocabulary I learned using Google Lens has improved my overall English skills: The agreement levels on this statement suggest that users perceive an overall improvement in their English language skills due to vocabulary learned through Google Lens. This holistic development may stem from better contextual learning and consistent practice facilitated by the tool.
18) I find it easier to integrate new vocabulary into everyday language after using Google Lens: Most participants agreed that Google Lens helps with incorporating new words into daily conversation. This practical application is crucial for long-term language retention and usage, highlighting the tool's real-world relevance.
19) Overall, I am satisfied with using Google Lens for vocabulary learning: Most responses were positive, showcasing that overall user satisfaction with Google Lens is high. It indicates that it meets user expectations for a vocabulary-learning tool and reinforces its utility and effectiveness.
20) I will continue to use Google Lens to learn English vocabulary in the future. The strong agreement with this statement points to sustained user interest and the perceived long-term benefits of using Google Lens for vocabulary learning. It highlights user loyalty and the potential for continued application in language learning.

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Figure 5. Response distribution for statements 17 to 20 from the questionnaire

21) Google Lens is an effective tool to improve my vocabulary acquisition: High levels of agreement suggest that users find Google Lens to be an effective tool for mastering vocabulary. It aligns with other findings that indicate improvements in learning outcomes and user confidence.
22) The benefits of using Google Lens outweigh the challenges I face: The responses indicate that most users believe the benefits of using Google Lens outweigh any challenges they may encounter. It points to the tool's overall positive impact, with technical or usability issues considered minor compared to its advantages.
23) My experience using Google Lens has positively influenced my approach to language learning: Respondents widely agree that their experience with Google Lens has positively influenced their approach to language learning. It highlights the tool's role in shaping modern learning habits and promoting technology-enhanced education.

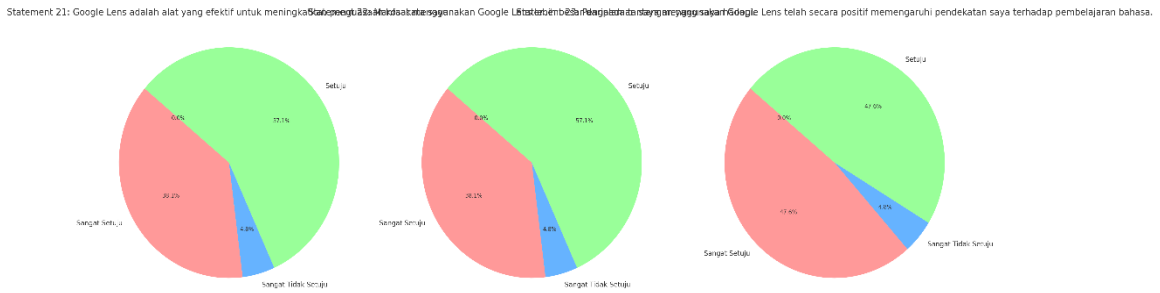

Figure 6. Response distribution for statements 21 to 23 from the questionnaire

An analysis of the questionnaire responses revealed that Google Lens is highly regarded as an effective tool for learning English vocabulary (Bai, 2018; Xu, 2022; Xiuli, 2023). Users appreciate its intuitive design, which enables easy and quick use, and its features make vocabulary learning engaging. Many participants noted that it supported better memory retention and helped them apply newly learned words in real-life conversations. The tool is seen as a reliable aid for both general and industry-specific vocabulary, such as maritime

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terminology, and it is praised for enhancing users' confidence in language use. Although a few respondents indicated minor technical issues or challenges with translation accuracy, these concerns were significantly outweighed by their overall positive user experience.

The following table displays the percentage distribution of responses for each statement in the questionnaire. This detailed breakdown lets the reader see how respondents rated their agreement, from "Strongly Agree" to "Strongly Disagree," for each statement.

Table 1. Percentage distribution of responses for each statement in the questionnaire

	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Google Lens is easy to use for translating text.	52.38%	42.86%	0.00%	4.76%
2	I did not experience any technical difficulties when using Google Lens.	33.33%	61.90%	0.00%	4.76%
3	I was able to understand how to use Google Lens quickly.	52.38%	42.86%	0.00%	4.76%
4	Google Lens is accessible whenever I need it.	42.86%	42.86%	9.52%	4.76%
5	Using Google Lens helps me learn new English vocabulary.	52.38%	42.86%	0.00%	4.76%
6	I can remember new words better after using Google Lens.	38.10%	57.14%	0.00%	4.76%
7	Google Lens provides clear and accurate translations.	47.62%	38.10%	9.52%	4.76%
8	I understand the context of new vocabulary better with Google Lens.	47.62%	47.62%	0.00%	4.76%
9	Google Lens helps me learn specialized vocabulary for Port Management and Maritime Logistics.	42.86%	42.86%	9.52%	4.76%
10	Using Google Lens makes vocabulary learning more engaging.	42.86%	52.38%	0.00%	4.76%
11	I feel more motivated to learn vocabulary using Google Lens than traditional methods.	47.62%	47.62%	0.00%	4.76%
12	Google Lens keeps me interested in learning new words.	47.62%	47.62%	0.00%	4.76%
13	I enjoy using Google Lens to learn vocabulary.	42.86%	52.38%	0.00%	4.76%
14	I would recommend Google Lens to others for learning vocabulary.	38.10%	57.14%	0.00%	4.76%

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15	I feel confident using the vocabulary I learned through Google Lens.	38.10%	57.14%	0.00%	4.76%
16	I can recall words I learned through Google Lens during conversations.	38.10%	57.14%	0.00%	4.76%
17	The vocabulary I learned using Google Lens has improved my overall English skills.	42.86%	52.38%	0.00%	4.76%
18	I find integrating new vocabulary into daily language easier after using Google Lens.	38.10%	57.14%	0.00%	4.76%
19	Overall, I am satisfied with using Google Lens for vocabulary learning.	42.86%	52.38%	0.00%	4.76%
20	I will continue using Google Lens to learn English vocabulary in the future.	47.62%	47.62%	0.00%	4.76%
21	Google Lens is an effective tool for improving my vocabulary mastery.	38.10%	57.14%	0.00%	4.76%
22	The benefits of using Google Lens outweigh the challenges I face.	38.10%	57.14%	0.00%	4.76%
23	My experience with Google Lens has positively influenced my approach to language learning.	47.62%	47.62%	0.00%	4.76%

The findings also highlight that Google Lens fosters long-term interest in learning, with users reporting increased motivation and satisfaction compared to traditional learning methods. Most respondents were willing to continue using Google Lens in the future and would recommend it to others. It demonstrates that the tool meets and often exceeds user expectations, proving its effectiveness in improving vocabulary mastery and shaping modern technology-driven learning approaches. In line with that, Binambuni et al. (2024) researched interactive storytelling in Give Yourself Goosebumps #2: Tick Tock, You're Dead!, which can aid in expanding English vocabulary by exposing readers to varied language contexts and expressions. The multiple storylines and decision points encourage readers to engage with different text parts, providing repeated exposure to new words and phrases. This approach helps reinforce language learning by making readers active participants, which deepens vocabulary retention. The qualitative findings indicate that Google Lens is a powerful and engaging tool for English vocabulary acquisition among cadets in Politeknik Bumi Akpelni (Du Plessis, 2021; Fauzi et al., 2023; Cahyaningrum et al., 2024). Cadets' narratives underscore their strengths in terms of ease of use, enhanced motivation, vocabulary retention, and overall satisfaction, making them a practical addition to their language learning strategies (Shapovalov et al., 2020; Sugianta et al., 2024).

Similar but a bit different from the previous research done by Venkatesh (2022), Google Lens is an image recognition program that Google released in 2017 and is now available on most devices. It recognizes photos using visual analysis based on neural networks. Currently,

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Google suggests that Google Lens can identify specific things, translate language, detect lookalikes, see what is popular on menus, explore neighboring destinations, and identify flora and animals (Bilyk et al., 2020; Nuraini et al., 2022; Annisa, 2023). This research focuses on using Google Lens only to improve vocabulary and make the teaching-learning process powerful and time-effective.

5. Conclusions

This study examined how cadets at Politeknik Bumi Akpelni used Google Lens to improve their English vocabulary, notably in the context of Port Management and Maritime Logistics. Participants' thoughts suggested that Google Lens was essential to their vocabulary learning. Cadets regularly praised their ease of use, pointing out how the straightforward user interface made the application accessible and user-friendly with few technical hurdles. Many people said that Google Lens's real-time translations were clear and precise and helped them grasp language better, particularly when learning field-specific phrases.

Cadets also stated that utilizing Google Lens made their studies more engaging and entertaining, adding an element of excitement to the process. This increased motivation was a consistent theme, with participants stating that Google Lens improved their interest in learning new words and helped them gain confidence in using them. Their narratives showed a high level of satisfaction with the instrument, which reflects its impact on their overall approach to language acquisition.

This study shows cadets see Google Lens as a valuable tool for enhancing their English vocabulary. They saw this as positive for user experience, motivation, and retention. The overwhelmingly favorable reaction indicates that Google Lens could complement language learning materials at Politeknik Bumi Akpelni and other universities. The participants' experiences highlight the possibility of incorporating Google Lens into structured vocabulary-learning programs. Future research could examine cadets' long-term experiences with the tool and its role in maintaining language retention in different learning environments.

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